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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,108	01/10/2002	Carsten Zilg	268/200	6066

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LYON & LYON LLP  
633 WEST FIFTH STREET  
SUITE 4700  
LOS ANGELES, CA 90071

EXAMINER

WYROZEBSKI LEE, KATARZYNA I

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 10/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/031,108	ZILG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Katarzyna Wyrozebski Lee	1714	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>0202</u> . | 6) <input type="checkbox"/> Other: _____                                    |

Use Claims

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6 provides for the use of clay composition, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Additionally, 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Thus, claim 6 is also rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

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In order to overcome this rejection, it is advised that the applicant change the "use for" language in claims 1-8 to "process of using".

*Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claim as well as claim 2 recites maleinated oil. With respect to the term maleinated the examiner is not clear as to what the oil was modified with. If the modifier was maleic anhydride then the term should have been spelled maleated. For more prompt prosecution the examiner will treat the present claims as that modified with anhydride.

***Claim Objections***

5. Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In the instant case, independent claim 1 recites that the component 1 is either epoxidized or maleated natural or synthetic oil. At the same time claim 2 recites that the component A1 is epoxidized or maleated oil based on mono- or polyfatty acids or an epoxidized or maleated rubber.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over PINNAVAIA (US 5,853,886) in view of TOMKO (US 6,051,633).

The prior art of PINNAVAIA discloses composition that can be utilized in surface coatings. The composition comprises polymer and exfoliated clay that is pretreated with either phosphonium or ammonium salt (col. 3, lines 22-23). Preferred intercalants are alkyl ammonium compounds.

The clay component of the prior art of PINNAVAIA includes smectite type clay such as montmorillonite (example 14), hectorite, vermiculite, fluorohectorite and rectorite (example 15-19). The chemical structures for the clay component utilized in the composition of PINNAVAIA are further disclosed in TABLE 1 (col. 2) wherein the equation from claim 10 of the present invention is encompassed. The specific chemical content of the silicate depends on where it came from, however; all of the listed silicates are swellable and can be exfoliated. According to

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the Table 4 (col. 22), the cation exchange capacity of the clay component is in a range of 62-120 meq/100 grams and basal spacing upon intercalation increased from 10.4-21.4 angstroms (1.04-2.12 nm) up to 64.9 angstroms (6.4 nm) in gel concentrate. Obtained gel contains 20% by weight of silicate (example 6).

Monomers utilized in the composition of PINNAVAIA include those capable of forming epoxy resin such as bisphenol A and bisphenol F monoether compounds (col. 15) and which compounds are liquid at room temperature.

According to the examples the epoxy resin is utilized together with curing agent, which is polyamine. The examples of PINNAVAIA utilize Jeffamine curing agents for the epoxy resin.

According to the specification of PINNAVAIA, polyurethane is also a suitable polymer (col. 11, line 62 to col. 12, line 14). According to PINNAVAIA in order to form polyurethane composition the monomers that have to be utilized are polyols and polyisocyanates. The chemical formulas disclose polyols and isocyanates having two -OH and two -NCO functionalities respectively.

Other resins specifically depicted in the claims and specification of the prior art of PINNAVAIA includes alkyd resin made from oil such as glycerol and anhydride (col. 12, lines 15-35).

The difference between the present invention and the disclosure of the prior art of PINNAVAIA is presence of soya or linseed modified oils as well as the amount in which monomer can be utilized when employing modified oils.

With respect to the above difference, the prior art, example 3 of the prior art of TOMKO discloses part of the composition for non-aqueous dispersion having use in coating industry.

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Example 3 specifically discloses method of formation of alkyd resin by reacting soya oil with anhydride at 480°F for half an hour, which conditions will cause reaction between the two components. Therefore the soya oil of the example of TOMKO is viewed as modified with anhydride. Although the amount of the modified oil in the prior art of TOMKO is greater than 70 %, it would have been obvious to one of ordinary skill in the art to utilize less, when this compound is used as stabilizer and dispersant with liquid monomers

The monomers of the prior art of TOMKO utilized to make coating include acrylic monomers, epoxy monomer and isocyanates all of which can undergo free radical polymerization (col. 4, line 51 to col. 52, line 10) wherein the monomer is utilized in up to 50% by weight.

The prior art of TOMKO also suggests use of organoclays as rheology modifiers along with other additives customary to the coating industry (col. 6).

According to the prior art of TOMKO, the oils reacted with anhydride are utilized in the coating composition, because they act as dispersants and steric stabilizers (col. 2, lines 58-61). In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize the stabilizer of TOMKO in small amounts in the composition of PINNAVAIA as stabilizers and thereby obtain the claimed invention. The combination would still provide functional coating composition. In addition it would have been obvious to combine since the prior art of PINNAVAIA teaches use of alkyd resins as well and it is well settled that it is prima facie obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose. *In re Linder* 457 F,2d 506,509, 173 USPQ 356, 359 (CCPA 1972).



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The disclosure US 2003/0119918 to CROYLE is also applicable against present claims but it cannot be considered as prior art for date purposes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski Lee whose telephone number is (703) 306-5875. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*Katarzyna Wyrozebski Lee*  
Katarzyna Wyrozebski Lee  
Primary Examiner  
Art Unit 1714

October 8, 2003